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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,072	12/11/2001	Florian Max Kehlstadt	09623C-035500US	1763

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EXAMINER

PRIZIO JR, PETER

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,072

Applicant(s)

KEHLSTADT ET AL.

Examiner

Peter Prizio

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 1, 4, 10, 11-13, 18, 21, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations in claims 1, 4, 10, 11, 12, 13, 18, 21, and 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. Regarding claims 1, 11, 18 and 21, the "electronic circuitry for detecting the user inputs and transmitting signals corresponding to said user inputs to said electronic system" must be represented in the drawings.
3. Regarding claim 4, the "elongate strip" must be shown in the drawings.
4. Regarding claim 10, the "module for generating an audible ratchet sound for each predetermined amount of scrolling" must be represented in the drawings.
5. Further regarding claim 11, the "module for interpreting said plurality of input signals" must be represented in the drawings.
6. Regarding claim 12, the "software driver" must be represented in the drawings.
7. Regarding claim 13, the "hardware circuitry" must be represented in the drawings.
8. Regarding claim 24, the "switch button mounted below said wheel that is activated by depressing said wheel" must be represented in the drawings.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

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Specification

9. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 10, line 2 refers to a "module for generating an audible ratchet sound for each predetermined amount of scrolling". This module is not disclosed in the specification. Either amend the specification with the appropriate disclosure or withdraw claim 10. Claim 24 refers to a "switch button mounted below said wheel and is activated by depressing said wheel". The embodiment of a switch located below a scroll wheel is not disclosed in the specification. Either amend the specification with the appropriate disclosure or withdraw claim 24.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 24 recites the limitation "said wheel" in line 2. There is insufficient antecedent basis for this limitation in the claim. The claim is dependent upon claim 21, which recites the limitation "scrolling element". Claim 24 should read: The input device of claim 21 wherein said scrolling element comprises a wheel, and said switch button is mounted below said wheel and is activated by depressing said wheel.

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Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 102(a) as being anticipated by US Patent 6,198,473 to Armstrong.

15. Armstrong (col. 11 & 12) clearly covers all limitations of claims 1 including a housing (104), electronic circuitry (111), an input element (scroll-up button 107 and scroll-down button 108), a force sensing resistor (sensor 10) and a solid elastomeric material (dome-cap for 107, 108). Armstrong (col. 16 & 18, Fig. 7 & 8) relates the applied pressure to the resistivity of the sensor.

16. Armstrong further suggested (col. 5, lines 61-64) the invention is a mouse with buttons for providing increased user control over window scrolling. The input element (107 & 108) is of an elongated shape.

17. Further teachings of Armstrong cover the limitations set forth in claim 5 that a low pressure on a scroll button resulted in a slow rate of scrolling in the desired direction, while high pressure resulted in a high rate of scrolling (col. 6, lines 21-29). Therefore the amount of force exerted on the button is controls the rate of scrolling.

18. Armstrong also suggested (Fig. 7) the force sensitive resistor contains an air gap.

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19. Claims 21, 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,530,455 to Gillick et al. (col. 3). Gillick et al. suggested (col. 2, lines 39-48 and fig. 1) a housing (26) with corresponding circuitry to transmit the input signals, and a scrolling element. The scrolling element (fig. 5) is a roller (24) with a microswitch (37) mounted below said roller and activated by depressing said roller.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong as applied to claim 1 above and in view of US Patent 5,883,619 to Ho et al. As stated in column 2, lines 5-14, Ho et al suggested a view control system comprising a button for generating a zooming signal on a mouse. It would have been obvious to one skilled in the art to modify Armstrong with the teachings of Ho et al to control zooming from buttons on a mouse for the benefit of controlled zooming speed without many extra finger movements.

22. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong as applied to claims 1 and 6 above. It would have been obvious to one skilled in the art of elastomeric dome-cap sensors as taught by Armstrong (Fig. 7 & 8) to be constructed using a metal-coated plastic, polyester or polyethylene terephthalate for increased strength and sensitivity.

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23. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong, as applied to claims 1 and 2 above, in view of "Hear Yourself Type", PC Magazine by Rubenking. KeyTick generates an audible sound when the scroll wheel of a mouse is used. It would have been obvious to one skilled in the art to modify Armstrong with the teachings of "Hear Yourself Type" for the benefit of user feedback to alert the user to an action performed using the mouse.

24. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view of Gillick et al.

25. Regarding claims 11, 17, Armstrong suggested, in column 7, lines 1-7, that one button could have 2 roles determined by the length of time the button is pressed, i.e. if a button is tapped, action 1 will be performed, but if that same button is held for longer than a predetermined amount of time, action 2 will be performed, while Gillick et al. suggested multiple scrolling methods and (col. 8, line 53-57) suggested "PowerScroll" which is a continuous, user-interrupted scrolling and single motion scrolling (col. 3, lines 50-51). It would have been obvious to one skilled in the art to combine the time determined function buttons of Armstrong with the scroll methods and roller of Gillick et al. in order to achieve multiple states of scrolling with one button, i.e. a short tap of a button would result in a single scroll motion while a longer touch of the button would result in continuous scrolling.

26. Regarding claim 12 an Armstrong in view of Gillick et al. as applied to claim 11 above, Gillick et al. further suggested a driver to be "placed in parallel with the mouse

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controlled subfunctions, which are not modified. The driver generates messages to implement the same subfunctions normally called in other ways," (col. 2, lines 50-53).

27. Regarding claims 13 and 14 and Armstrong in view of Gillick et al. as applied to claim 11 above, Armstrong further suggested, (col. 6, lines 6-9) "the circuitry is structured to read an immediate, instant or current state or value of the analog sensors and to communicate representative scroll control signals to the associated computer."

28. Regarding claim 15 and Armstrong in view of Gillick et al. as applied to claim 11 above, Armstrong suggested (Fig. 1) the use of pressure sensitive buttons (scroll buttons 107 & 108), determined to be analogous to force sensitive resistors.

29. Regarding claim 16 and Armstrong in view of Gillick et al. as applied to claim 11 above, Gillick et al. further suggested (col. 3, lines 50-51) that a single movement of the scroll wheel could make precise adjustments.

30. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong as applied to claim 1 above and in view of US Patent 5,302,936 to Yaniger. Armstrong (fig. 7) suggested the use of elastomeric dome-cap pressure sensors. The construction is such that it has a raised solid overlay (12), while Yaniger (col. 2 & 3) suggested (fig. 2) a base ply (12), a resistance ply (14) on the base ply, which includes a conductive particulate (16) dispersed within a resistive resin (18). Opposite the surface of the resistive ply (22) there are two contacts (26 & 28). Pressure applied to the upper surface (31) causes contact between the contacts and the resistance ply. As the pressure increases the resistance to the flow of electricity decreases (col. 3, lines 35-39). It would have been obvious to one skilled in the art to combine the input device as

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described in Armstrong with the force sensitive resistor (FSR) as taught by Yaniger in order to have a stable, predictable FSR for a pressure controlled input device that is easily located and operated by the user. It would have been further obvious to be able to activate the FSR with a force of less than 50 grams to reduce the strain on the user while maintaining the ability of multiple states as suggested by Armstrong (col. 6, lines 21-29).

31. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillick et al. as applied to claim 21 above and in view of Armstrong. Armstrong suggested the use of pressure sensitive buttons utilizing force sensitive resistors (sensor 10) for variable speed scrolling (buttons 107 & 108), while Gillick et al. suggested a roller that can be operated as a button to enter the above stated "PowerScroll" mode. It would have been obvious to one skilled in the art to combine a pressure sensitive button using a force variable resistor as taught by Armstrong with a roller/button combination as suggested by Gillick et al. in order to provide multiple functions to one roller, and allow the user to vary the speed of the continuous scrolling depending on the pressure applied to the roller.

Allowable Subject Matter

32. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following US Patents are included to show the state of the art of force varied scrolling methods and audible feedback mice:

US Patent 6,271,824 to Chang

Japanese Patent 2001222373A to Sato

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Prizio whose telephone number is (703) 305-5712. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on (703) 305-4709. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Peter Prizio
Examiner
Art Unit 2674

PP



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